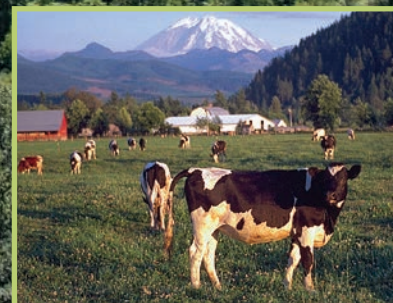


2017 ANNUAL REPORT

Department of Natural Resources and Parks



*Environmental
Stewardship in
King County*



King County

Department of
Natural Resources and Parks



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King County Department of Natural Resources and Parks

Vision

Sustainable and livable communities and a clean and healthy natural environment that support a prosperous and resilient economy.

Mission

Provide regional parks and trails, protect the region's water, air, land, natural habitats and historic properties, and reduce, safely dispose of and create resources from wastewater and solid waste.

Goals

Environment

Minimize waste and emissions, maximize resource re-use and recovery, foster environmental stewardship, promote conservation, and protect and restore habitats, ecological functions and aquatic conditions.

People and Communities

Protect and improve human health and safety, foster community-building and healthy living, and preserve and enhance historic properties.

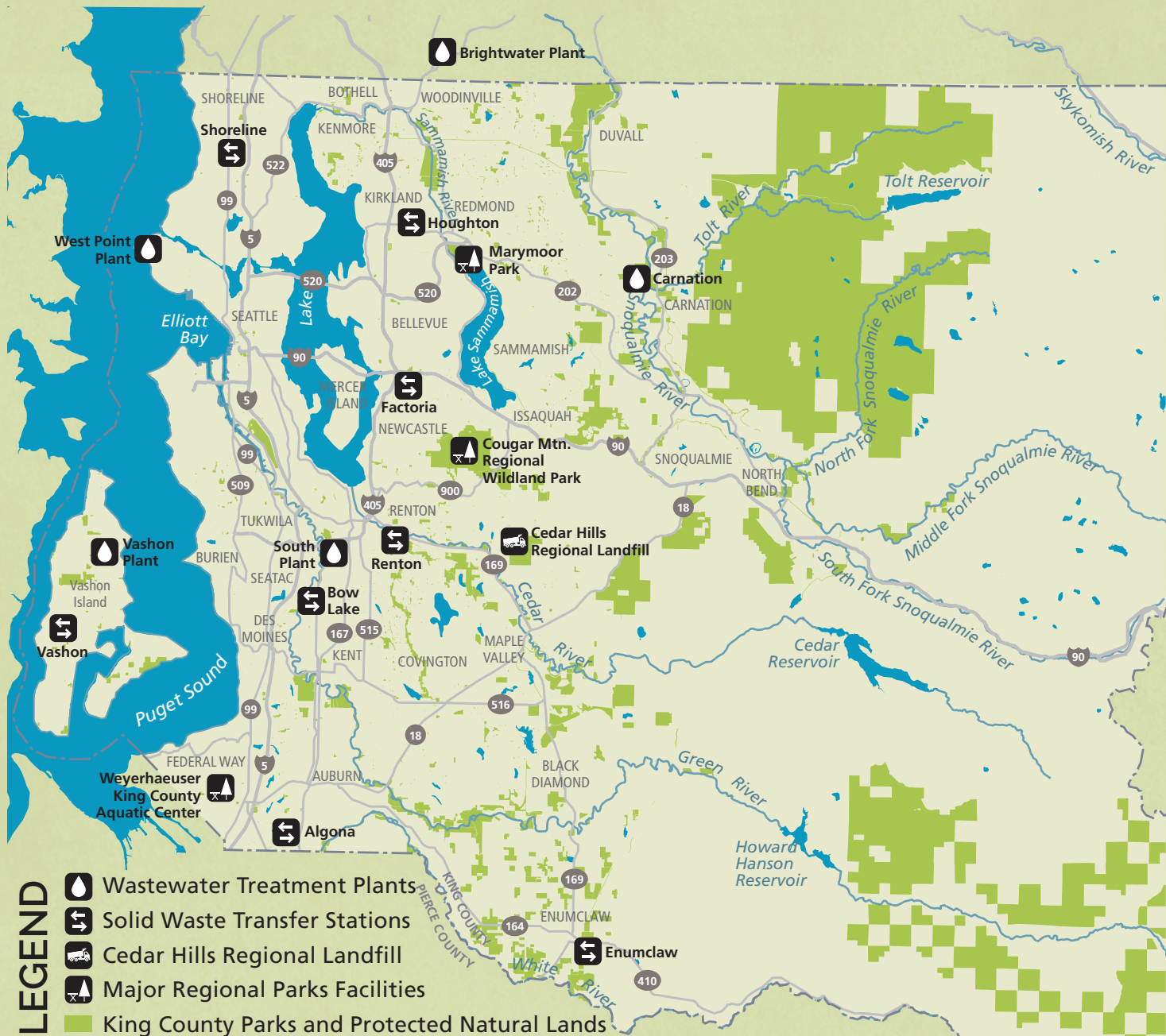
Fiscal Responsibility and Economic Vitality

Support King County's prosperity and ensure ratepayer value through effective, efficient and equitable programs.

Quality Workforce

Develop and empower our most valuable asset—our employees; build internal capacity for excellence, equity and fairness in service delivery.

King County by the numbers



features

39



38 inches
avg. annual
precipitation

37

760

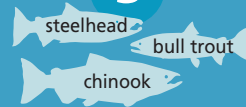
lakes
and reservoirs

6 major river
systems

3,000 miles
of streams

100 miles
of marine
coastline

3

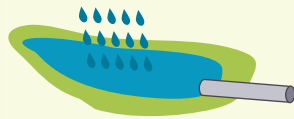
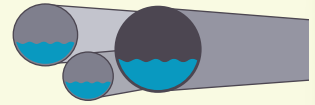


federally
protected
salmon species



facilities

353 miles of underground wastewater pipes and tunnels



2,369 commercial and residential stormwater control facilities



4 combined sewer overflow treatment plants



3 major regional wastewater treatment plants

2 smaller treatment plants



920 acres Cedar Hills Regional Landfill



700 low impact development sites



8 solid waste transfer stations

2 rural drop boxes



500 flood facilities and revetments totaling more than

119 miles



200 parks

28,000 acres of parks and natural lands

215 miles of backcountry trails



850,000 acres of forest lands



2,131 square miles



2,188,649 population



14th most populated county in the U.S. (out of 3,033)



975 wetlands

features

From the Executive

Welcome to the King County Department of Natural Resources and Parks Annual Report, Environmental Stewardship in King County. This report highlights the department's work to enhance and preserve our environment – the wellspring of our tremendous quality of life.

The thoughtful and professional work of DNRP's 1,500 employees is essential to my administration's success in implementing my four main policy priorities:

- Operating the best-run government, through efficient and cost-effective service delivery;
- Providing equitable and fair service delivery through innovation and a commitment to our shared success;

From the Director



King County Department of Natural Resources and Parks employees delivered on our shared commitments of environmental stewardship and outstanding customer service in 2017.

Here are some examples of the work we accomplished:

- We helped Executive Constantine recognize 13 businesses, cities, organizations, and groups for their work to protect and improve our environment through the Green Globe Awards – King County's highest honor for planet-saving efforts at the local level.
- We continued to reach out and listen to diverse communities to create equitable opportunities and increase awareness of DNRP services and programs, including the Cine en el Parque Spanish language outdoor movie night; technical support for grant writing; and expanding King County Parks' regional trail system in south King County.
- The Parks and Recreation Division teamed with the King County Department of Transportation to launch Trailhead Direct as a pilot project to expand access to hiking trails and reduce trailhead congestion in the Issaquah Alps. This innovative effort returns in 2018 with more service to more trailheads.
- Water and Land Resources Division employees were essential in completion of the County-line Levee Setback Project along the White River. This restored the river's access to its historic floodplain and helped reduce the risk of flooding for hundreds of people living nearby.
- We worked with Snoqualmie Valley farmers, residents and fish and wildlife advocates to achieve a landmark agreement balancing reduced flood risk to people and property, strengthening salmon populations, and growing a prosperous farming community.
- With a new Secure Medicine Return Program, King County has made it safer and easier to get unused and expired medication out of medicine cabinets, out of landfills, and



- Addressing climate change through effective policies, practical actions, and fostering the belief that we all can take steps to reduce our impacts; and
- Strengthening transportation across our county – including a robust and integrated regional trail system.

I have established an ambitious environmental agenda that will protect this special place we call home and improve the health and well-being of King County's almost 2.2 million residents.

I want to thank DNRP employees for their great work in 2017.



Dow Constantine

Dow Constantine
King County Executive

out of Puget Sound. There are now 99 drop boxes available at participating pharmacies and law enforcement offices.

- **Customers now have more recycling and disposal options than ever** with completion of the multi-year modernization project at King County's new Factoria Recycling and Transfer Station in Bellevue. Replacing a 1960s-era facility, the new station features new technology that reduces environmental impacts and improves

Solid Waste Division customer service.

- **King County replaced a major, century-old sewer pipe** running under the Ship Canal between Fremont and Queen Anne. The new Fremont Siphon, which carries up to 220 million gallons per day as one of the most heavily used pipes in the regional sewer system, will ensure north Seattle and north King County continue to enjoy safe, reliable sewer service for decades.

- **Dedicated Wastewater Treatment Division employees worked around the clock** to restore normal operations after a major infrastructure failure at the West Point Treatment Plant in February. Even while emergency repairs were underway, King County began plant improvements to increase system reliability, protect employees, and increase the level of service to a rising number of ratepayers in our growing region.

There is more information about this work and other important accomplishments throughout this annual report.

I want to thank you again for your great work in 2017 – and I look forward to achieving more successes in the years ahead.

Christie J. True

Christie True
Director



Strategic Initiatives in the Director's Office

DNRP Director's Office employees help develop strategies for executive initiatives that cross department and division boundaries. Here are highlights from 2017:

Land Conservation Initiative

Executive Constantine launched an initiative in late 2016 to preserve the county's last remaining high conservation value open spaces, working resource lands and trail corridors. Building on the previous year's efforts to create a work plan and establish an advisory group for refining the County's conservation efforts, DNRP worked with all 39 cities to complete an inventory of priority land acquisitions for consideration, including acquisitions viewed through an equity lens. A final report with funding recommendations was delivered to the Executive at year's end.



Climate change

DNRP contributed to regional progress on reducing greenhouse gas emissions through leadership of the King County-Cities Climate Collaboration, and the 1 Million Trees initiative. In 2017, the County built on its successful internal Fund to Reduce Energy Demand loan program, and is extending the program to cities to help advance progress on regional energy and climate change goals. The County supports regional climate preparedness as a founding member and co-chair of the Puget Sound Climate Preparedness Collaborative.



Salmon recovery

The partnership continued between King County, state, federal, local and tribal governments, non-government organizations and residents to restore native Lake Sammamish kokanee salmon. Consecutive years of catastrophic weak spawning salmon returns puts the population closer than ever to extinction. Experts have proposed several emergency actions in response, including captive broodstock, DNA cryopreservation; and environmental conditions monitoring. Parks is moving forward with a culvert replacement project on Zackuse Creek that restores fish access to healthy habitat.



Energy planning

The department is on track to install high efficiency LED lights in all facilities by the end of 2018, with many completed in 2017. Record biomethane production at South Treatment Plant and new solar installations at Steve Cox Community Center and Marymoor Park, illustrate DNRP's expanding commitment to renewable energy production. The department also committed to purchase western Washington-generated wind energy to power most of its facilities powered by Puget Sound Energy, beginning in 2019.



Performance management

DNRP uses performance information to seek guidance from stakeholders and elected leaders, target resource use, clarify direction for employees, and improve overall service delivery. Improvements in DNRP performance systems are focused on implementing the King County Strategic Plan and delivering work program expectations throughout the department.



Local Food Initiative

Implementing Executive Constantine's Local Food Initiative to create a stronger food system in King County continues to be coordinated by the Director's Office. Progress was made in efforts to increase access to land for rural and urban farmers, improve training and technical assistance to farmers, and rebuilding food system infrastructure. A countywide farmers market promotion program and hosting the annual CHOMP! local food festival raised awareness of food and farm products produced in King County.



Historic Preservation

King County's Historic Preservation Program awarded \$215,000 in grants to help historic barn and outbuilding owners stabilize and keep them in agriculture-related use. King County acquired the



Mukai Barreling Plant on Vashon Island, which helps tell the story of Japanese-American settlement and farming in the early 20th Century and the devastating effects of World War II and internment on the Japanese-American community. Interlocal agreements for landmark services were executed with Renton and Federal Way.

Community Service Areas (CSAs)

The CSA Program worked to engage and improve communication with unincorporated King County residents, providing 52 CSA grants totaling \$90,000. Grants offer residents the chance to participate and be more connected in their communities. Hundreds of residents participated in nine CSA Town Hall meetings where they were able to ask King County officials about key issues, local services, and resources.



Eastside Rail Corridor (ERC)

Work continued to develop the County's 16.7-mile portion of the ERC into a multipurpose trail. Rail removal and interim trail construction took place along a four-mile-long stretch from Gene Coulon Park in Renton to Newcastle Beach Park in Bellevue, with connections at either end to the existing Lake Washington Loop Trail and to the Lake to Sound Trail. Interim trail work also took place from the Cross Kirkland Corridor at 108th Avenue Northeast to Northup Way, with a State Route 520 Trail connection that was expected to open in early 2018.



2017 Awards

INTERNATIONAL

Compost More. Waste Less.

Solid Waste Division

2017 Gold Winner-Award for Audio/video

International Association of Marketing and Communication Professionals

NATIONAL

King County Wastewater Treatment Division

Wastewater Treatment Division

Utility of the Future Today

Water Environment Federation

Solid Waste Division Annual Report

Solid Waste Division; Strategy, Communications, and Performance Section

Award of Excellence – Photography

3CMA

Local Hazardous Waste Management Program

Solid Waste Division, Seattle Public Utilities, and Mary's Place

Public Partnership Award

North American Hazardous Materials Management Association

Green/Duwamish Urban Waters Federal Partnership and WRIA 9 Watershed Ecosystem Forum

Water & Land Resources Division; Rural and Regional Services Section; Regional Partnerships Unit

Samuel J. Heyman Service to America Medals 2017 Winner

Partnership for Public Service

Vashon Treatment Plant

Wastewater Treatment Division

Peak Performance Platinum Award, 2016

National Association of Clean Water Agencies

South Treatment Plant

East Section, Wastewater Treatment Division

Peak Performance Platinum Award, 2016

National Association of Clean Water Agencies

West Point Treatment Plant

West Section, Wastewater Treatment Division

Peak Performance Platinum Award, 2016

National Association of Clean Water Agencies

Brightwater Treatment Plant

Wastewater Treatment Division

Peak Performance Silver Award, 2016

National Association of Clean Water Agencies

Carnation Treatment Plant
Wastewater Treatment Division
Peak Performance Gold Award, 2016
National Association of Clean Water Agencies

STATE

East Lake Sammamish Trail – North Sammamish Segment
King County Parks
2017 Awards of Excellence, Best Special Project
Washington State Department of Transportation

South Treatment Plant
Wastewater Treatment Division
Outstanding Wastewater Treatment Plant Award, 2016
Washington State Department of Ecology

Brightwater Reclaimed Water Treatment Plant
Wastewater Treatment Division
Outstanding Wastewater Treatment Plant Award, 2016
Washington State Department of Ecology

Carnation Treatment Plant
Wastewater Treatment Division
Outstanding Wastewater Treatment Plant Award, 2016
Washington State Department of Ecology

REGIONAL

Local Hazardous Waste Management Program in King County
Local Hazardous Waste Management Program, HHW Collections Program and LHWMP Policy Team
Public Private Partnership Award
North American Hazardous Waste Materials Management Association – Northwest Chapter

Local Hazardous Waste Management Program in King County
Local Hazardous Waste Management Program, Policy Team and Research Services Team
Policy Advancement Award
North American Hazardous Waste Materials Management Association – Northwest Chapter

Fremont Siphon Project
Department of Natural Resources and Parks – Wastewater Treatment Division
2017 Distinguished Project Award – Best Public Project over \$10 Million
Northwest Construction Consumer Council

Barton Combined Sewer Overflow Control Project
Department of Natural Resources and Parks – Wastewater Treatment Division
2017 Local Outstanding Civil Engineering Achievement – Water Resources Category
American Society of Civil Engineers, Seattle Section

King County Wastewater Treatment Division
Department of Natural Resources and Parks – Wastewater Treatment Division
Outstanding Leadership and Support by an Organization Award
Pacific Northwest Section of the American Water Works Association

Factoria Recycling and Transfer Station
Solid Waste Division, Centralized Project Management Unit, Enterprise Services Section
Distinguished Project Award Winner – Green Project of the Year
Northwest Construction Consumer Council

Equity and Social Justice

in the Department of Natural Resources and Parks

In 2017-18, DNRP is taking action on a number of practice and process improvements identified in the King County Equity and Social Justice (ESJ) Strategic Plan, within the organization, and in the communities we serve.

The department's ESJ core team includes goal leads, division liaisons, an Executive's Office representative, training coordinator, and liaisons to countywide teams.

Recent accomplishments, work products, and results include:

- An ESJ performance expectation in all supervisor performance appraisals;
- A supervisor's toolkit to build skills and foster inclusivity;
- Progress toward low-income discounts in select fees and rates across divisions;
- A pro-equity grant-making guidance document and related practice improvements;

- Development and implementation of recruitment standards;
- An inventory of community partnerships across divisions and programs;
- A centralized webpage of communication resources for program staff; and
- Development of guidelines and training for pro-equity practice improvements in capital project delivery.

Four themes and strategies cut across the ESJ goals:

- Pointing resources “upstream” and where the needs are greatest;
- Investing in community partnerships, to leverage where important capacity exists or should be built;
- Investing in employees, whose knowledge, skills, and empowerment are fundamental; and
- Calling for and expecting accountable and transparent leadership.

For ESJ goals, there are work programs that are nested and concurrently driven at the enterprise (countywide), department (DNRP), and division levels. Given DNRP’s significant infrastructure development responsibilities, the department is leading the facility and system improvement goal area work on an enterprise basis.

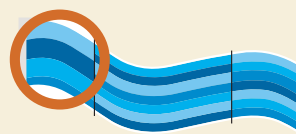
A few priorities in the coming year include:

- Improve green job pipelines and readying for workforce demographic improvements;
- Focus on capital project selection, planning, design and delivery to advance equity and social justice; and
- Implement a more coordinated and integrated community and civic partnership approach to reduce fragmentation and confusion about projects and roles.

Equity and social justice is a core priority in King County and central to the mission of DNRP. The department’s efforts are guided by the ESJ ordinance, the ESJ strategic plan, and the voices and concerns of employees, customers, ratepayers, and other stakeholders.

We are committed to strengthening our shared capacity to routinely drive toward pro-equity outcomes in all of our communities.

King County DNRP Invests



Upstream,
where needs
are greatest,



in
community
partnerships,



King County



and in
employees,



with transparent
and accountable
leadership.

Parks and Recreation Division

MISSION

Steward, enhance and acquire parks to inspire healthy communities.

What We Do

The Parks and Recreation Division (Parks) stewards 200 parks, 175 miles of regional trails, and 28,000 acres of open space, including such regional treasures as Cougar Mountain Regional Wildland Park, Marymoor Park, and the Weyerhaeuser King County Aquatic Center. By cultivating strong relationships with non-profit, corporate, and community partners, Parks provides recreational opportunities for King County residents and protects the region's public lands, leaving a legacy for future generations.



The snip of a ribbon signals opening another stretch of the Lake to Sound Trail.

2017 Accomplishments

Open space protection and recreation

The division expanded access to recreation by completing new trailheads at Pinnacle Peak Park and Granite Creek. Parks protected 700 acres of fish and wildlife habitat through more than 40 acquisitions, leveraging some \$21 million in grant funding. One notable acquisition was the 170-acre addition to Soaring Eagle Park that makes connections along the "Emerald Necklace," a multi-jurisdictional effort to complete a continuous 28-mile-long corridor encircling the Sammamish Plateau.

Furthering the 2015 Strategic Climate Action Plan, Parks developed forest stewardship plans for Bass Lake Complex, Soaring Eagle Park, Patterson Creek Natural Area, Black Diamond Open Space, Ravensdale Retreat Natural Area, and Henry's Ridge Open Space, covering a total of 2,746 acres of forestlands.

Regional trails

Parks completed a five-year strategic plan, focusing on developing regional trails for all ages and abilities that connect communities, inspire healthy living, and support a sustainable future. The division achieved a major milestone on the Eastside Rail Corridor in removing rails along two trail segments. The combined five miles of interim gravel trail is expected to open in spring 2018. In late 2017, Parks completed construction of the 1.2-mile-long South Sammamish Segment A of the East Lake Sammamish Trail, opening to the public in January 2018. As the division moves into 2018, there are six regional trail projects in some phase of design, permitting or construction.

Community Partnerships and Youth and Amateur Sports Grants

The Community Partnerships and Grants (CPG) program works with partners to build, operate, and maintain new or enhanced public facilities. In the last five years, the program has expanded recreation opportunities for 718,000 park and trail visitors and more than doubled the division's investment of public funds. In 2017, CPG partner Tiny Trees Preschool began its outdoor preschool at Cougar Mountain and Big Finn Hill parks and expands to Five Mile Lake Park in 2018.

The King County Council formed the new Youth and Amateur Sports Grants program in 2017, identifying more than 150 grants to community-based organizations, non-profits, and other agencies. As part of this program, Parks inaugurated a \$3.6 million competitive grant program, which received 96 applications requesting \$11.5 million for programs and capital projects that improve health outcomes, reduce health disparities, and increase access to physical activity, especially for under-resourced communities.

With the goals of reducing congestion at popular trailheads in the Issaquah Alps and increasing access to outdoor recreation, the division partnered with Metro to launch "Trailhead Direct," a pilot weekend shuttle service. Parks also worked with a variety of partners to present the "Big Backyard Movies," an outdoor cinema series at various King County parks and other locations and attracted an estimated 2,100 moviegoers.

Volunteers

Some 10,200 volunteers gave more than 56,800 hours of service to Parks in 2017 at one of 451 volunteer events. Volunteers helped plant about 17,000 native trees as part of Parks' contribution to King County's effort to plant one million trees by 2020.

Business development and major events

Parks secured more than \$5 million in revenue from major events, facility rentals, corporate sponsorships, and other activities to support operations and maintenance of the division's parks and trails. Signature events like the Marymoor Park Concert Series, Movies@Marymoor Outdoor Cinema, Timber! Outdoor Music Festival, and Cougar Mountain Trail Running series set attendance records and generated significant revenue for the division.

A new partner, local dinner theater production Teatro ZinZanni, took up residence at Marymoor



All-weather turf soccer fields keep in shape for growing leagues.

Park in fall 2017. Scheduled through April 2018, the performances generate revenue for the division during the off-season for Cirque du Soleil, which makes recurring appearances at the park.

Outlook

With about 300 capital projects in some phase of planning, design or construction, Parks continues to make progress toward the goals of the 2014-2019 Parks, Trails and Open Space Replacement Levy. The division received another excellent review from the Parks Levy Citizen Oversight Board.

In 2018, the division will continue to contribute toward achieving the goals of the County's Strategic Climate Action Plan through its regional trails program, forest stewardship, and volunteer and habitat restoration efforts. Parks will seek ways to magnify its impact on recreation and public land protection by deepening collaboration with jurisdictions and other partners through the continuing development of the Eastside Rail Corridor, establishing of a multi-agency Regional Trails Steering Committee, and the continuing evolution of Trailhead Direct, Big Backyard Movies, and the Youth and Amateur Sports Grants program.



Two Rivers School students take part in outdoor education at Tolt-MacDonald Park.

Solid Waste Division

MISSION

The Solid Waste Division brings the best people together to deliver value to our customers and stakeholders and continuously improve waste prevention, resource recovery, and waste disposal.



Executive Constantine was front and center at the 'recycled' ribbon cutting for the new Factoria Recycling and Transfer Station.

What We Do

The Solid Waste Division (Solid Waste) provides environmentally responsible solid waste transfer and disposal services in King County. The division operates eight transfer stations, two rural drop boxes, and the Cedar Hills Regional Landfill – the only operational landfill in the county. Its stakeholders include residents and business owners in unincorporated King County and 37 cities throughout the county. The division works closely with its stakeholders to continue its national leadership in waste prevention, resource recovery, and waste disposal.

Waste Prevention

To prevent bulky materials that do not readily breakdown from entering the waste stream, Solid Waste began a tire and mattress materials recovery pilot at the Factoria and Bow Lake recycling and transfer stations. The division collected more than 3,200 tires and 1,670 mattresses in 2017.

To give products a second life and provide a service to people in need, Solid Waste and the Local Hazardous Waste Management Program (LHWMP) developed a way to donate reusable products recovered from recycling stations to a local non-profit that provides temporary shelter and permanent housing to women and children. Together, LHWMP and Solid Waste donated 1,200 pounds of reusable cleaning products to help the non-profit organization clean facilities and distribute items to clients who are transitioning into permanent housing.



Resource Recovery

BioEnergy Washington (BEW) contracts with Solid Waste to process landfill gas into pipeline-quality Renewable Natural Gas (RNG) for sale to Puget Sound Energy (PSE). The RNG from the Cedar Hills Regional Landfill, processed by the adjacent BEW gas purification facility, replaces fossil fuel-based natural gas to fuel natural gas-powered vehicles. Solid Waste partners with PSE to maximize revenue from renewable fuel sales. Renewable energy markets are highly volatile, and were strongly favorable in 2017, generating an estimated \$7.1 million from the gas purified at Cedar Hills.

In 2017 the division collected 31,728 tons of recycling at recycling and transfer stations, a 25 percent increase from 2016. Yard waste was the most-recycled item with 19,076 tons collected in 2017. The increase is due in part to the division's resource recovery program that makes it easier for self-haul customers to recycle scrap metal, clean wood, and cardboard by putting bins in unloading areas for these targeted materials.

Waste Disposal

Compared to 2016, total tonnage disposed in 2017 grew by 1 percent, to 931,200 total tons of garbage disposed at transfer stations and the landfill.

In early 2017, Solid Waste chose the location for a new recycling and transfer station in south King County. The new station will be built on land adjacent the existing Algonia Transfer Station, which has been in operation for more than 50 years. The division is analyzing options for design and construction of the new facility, which is expected to cost an estimated \$100 million to design and build, and begin operations in 2022.

In October, the Solid Waste Division achieved a major milestone when it opened the redeveloped Factoria Recycling and Transfer Station in Bellevue. The new station offers more recycling options, including major appliances, yard waste, clean wood, scrap metal, commingled recyclables, and textiles. Additionally, a new household hazardous waste (HHW) facility allows customers safe disposal of their HHW materials. The station also features a flat-floor design to allow easier unloading of garbage, better traffic flow and expanded capacity and reduced customer wait times.

2018 Outlook

After spending most of 2017 working with advisory committees, city partners, and stakeholders, the Solid Waste Division released its Draft Comprehensive Solid Waste Management Plan and Draft Environmental Impact Statement for public comment in early 2018. These documents will inform policy decisions on King County's garbage and recycling management for the next six to 20 years. Following a public comment period, the division will develop final versions of the two documents, with adoption in 2019.

The Solid Waste Division is committed to leading by example and continuing the regional dialogue on recycling, waste prevention, and resource recovery. That's why beginning in January 2018, the division will require customers at solid waste transfer stations and drop boxes to recycle cardboard, scrap metal, yard waste, and clean wood at facilities where those materials can be recycled.

This new rule cuts waste and saves room in the landfill, allowing the Solid Waste Division to continue providing its services at the level customers expect.

To show the value and importance of this effort, the division will use a robust public engagement campaign so self-haul customers understand why the conservation and recovery of these valuable resources are essential to the continued success of our region.



A SWD employee helps a customer at a new recycling and transfer station.



Wastewater Treatment Division

Mission

King County's Wastewater Treatment Division (WTD) protects public health and enhances the environment by collecting and treating wastewater while recycling valuable resources for the Puget Sound region.

What We Do

The Wastewater Treatment Division provides wholesale wastewater treatment services to 17 cities, 17 local sewer districts and more than 1.7 million residents across a 420-square-mile area in King, Snohomish and Pierce counties.

The division's 700 employees plan and design new facilities, regulate the disposal of industrial waste, educate the public about pollution prevention, and manage a regional system of treatment plants, pipelines and pump stations that operate around-the-clock. Guided by a commitment to sustainable communities, WTD remains focused on resource recycling and renewable energy production as part of its effort to attain carbon neutral operations.

2017 Accomplishments

West Point restoration

Dedication to public service was on full display at the West Point Treatment Plant, as employees worked day and night to restore equipment severely damaged by widespread flooding on Feb. 9. In less than two months, workers replaced or repaired all equipment critical for plant operation. West Point resumed full compliance with its water quality permits in May. Repair estimates were reduced from \$57 million to under \$26 million. Costs will largely be covered by insurance.

Resource recovery and recycling

One-hundred percent of the division's Loop® biosolids were recycled for use in forestry, agriculture and commercial composting applications, and demand for this nutrient-rich resource remained strong.

The division continued supplying recycled water to customers near its Brightwater and South treatment plants. Customers include Willows Run Golf Course, the Lake Washington Youth Soccer Association's playfields at 60 Acres Park, Starfire Sports Fields in Tukwila, and the City of Kirkland.

In 2017, WTD substantially completed a two-year project to transport biomethane gas produced at South Treatment Plant to seven local filling stations that supply fuel for compressed natural gas vehicles.



Employees worked around the clock to restore damage caused by flooding at the West Point treatment plant in February. The plant resumed normal operation in May.



Employees celebrate a \$894,970 grant from PSE.



Public art and educational features on the Murray Wet Weather Storage Facility enable people to learn about the facility's water quality mission.

Education, outreach and community services

Environmental education remained a popular feature with the public. More than 17,000 people took part in treatment plant tours, lectures and workshops.

Through partnerships with schools, labor organizations and nonprofits, WTD worked to attract more youth and people of color to job opportunities in the clean-water field.

To help protect water quality, control pollution and build healthy communities, WTD is offering \$1.8 million for community-driven projects through its Waterworks Grant Program.

Pollution control and cleanup

WTD continued its engagement with EPA, City of Seattle, Port of Seattle, and Boeing on the Lower Duwamish Superfund Cleanup.

Finance and administration

Infrastructure protecting regional water quality comes with a lower price tag following a credit rating upgrade and bond refinancings that will save \$77 million over the next two to three decades.

Financial firm Moody's Investor's Service upgraded WTD's sewer utility bond rating to Aa1 from Aa2, citing its prudent fiscal management and strong financial position. Standard & Poor's affirmed WTD's AA+ rating. These ratings are in the second highest rating for each firm. Since 2014, WTD has refinanced almost \$2 billion in outstanding debt to save ratepayers more than \$446 million over the life of the bonds.

The Washington State Supreme Court upheld a

2013 trial court ruling that awarded King County \$14.7 million to cover legal fees stemming from a lawsuit against a Brightwater Project tunneling contractor.

A raw sewage pump replacement project at South Treatment Plant earned an \$894,970 grant from Puget Sound Energy. The upgrade will save enough electricity to power 212 homes annually.

Capital projects

In 2017-18, WTD plans to invest over \$400 million on a major capital program to build new facilities and upgrade existing infrastructure.

A community celebration in July marked completion of the Fremont Siphon Project, which entailed tunneling twin pipelines beneath the Lake Washington Ship Canal that will push up to 220 million gallons of stormwater and wastewater to the West Point plant each day. The new infrastructure increases system capacity and helps control overflows of stormwater mixed with sewage that sometimes spilled from the old siphon on rainy days.

The division also completed its Murray Combined Sewer Overflow Control Project, which features a 1 million gallon underground tank to hold stormwater and sewage during heavy rains when the treatment system is at capacity. The \$47 million project was completed nearly \$240,000 under budget.

The division's use of green infrastructure to keep pollution out of Puget Sound earned honors from the Seattle chapter of the American Society of Civil Engineers. The organization recognized King County's Barton Combined Sewer Overflow Control Project as a Local Outstanding Civil Engineering Achievement in the water resources category.

Outlook

In 2018 and beyond, WTD will continue its focus on increased efficiency through Lean, meeting or surpassing permit requirements, exploring new technologies and markets for its recycled products, and investing in its asset management and capital improvement programs. The division will also mark completion of its Rainier Valley Wet Weather Storage and start construction on the Georgetown Wet Weather Treatment Station projects.

Water and Land Resources Division Content

Mission

To protect the water and land resources in King County for everyone to enjoy safely today, tomorrow and for our future.

What we do

The goal of every Water and Land Resources Division (WLRD) employee is to protect the health and integrity of King County's natural resources. We work to reduce flood risks, monitor water quality and restore wildlife habitat. We manage, and reduce the harmful impacts from stormwater, noxious weeds and hazardous waste. We create sustainable forestry and agriculture, and protect open space to support all of these efforts.

The division includes many programs with regional significance. The Environmental Lab and Science Section provides environmental monitoring, data management, analysis and modeling services to support DNRP-wide work and through contracts with other jurisdictions. The Local Hazardous Waste Management Program of King County is a multi-jurisdiction program that ensures residents and business safely dispose of hazardous waste.

The River and Floodplain Management Section is the service provider to the King County Flood Control District, which provides funding and policy oversight for implementing the County's flood management plan. Lastly, WLRD is home to regional salmon recovery programs working to restore salmon populations.

2017 accomplishments

In 2017, WLRD completed several projects to better understand and manage King County's landscape and infrastructure. This included mapping 418 miles of stormwater facilities, and assessing the conditions of 17,977 stormwater assets; surveying farmable land; and identifying high conservation land.



King County's new environmental monitoring vessel, SoundGuardian.

The Environmental Lab and Science and Technical Support section supported WTD in responding to West Point Treatment Plant flooding. An additional 650 samples were collected to characterize environmental conditions and impacts to Puget Sound. King County's new scientific research vessel, *SoundGuardian*, provided for a fast response with more efficient sampling in safer conditions.

The Science and Technical Support Section was the lead for two regional water quality efforts – the King County Water Quality Assessment and Monitoring Study, and the Bear Creek Watershed Plan, which will help guide future water quality investments.

The Local Hazardous Waste Management Program implemented the King County Secure Medicine Return Program that allows residents to safely dispose of medicines at drop boxes throughout King County, protecting public health and preventing environmental exposure to hazardous waste.

With funding support from the King County Flood Control District, the River and Floodplain Management Section completed the Countyline Levee Setback Project, WLRD's largest capital project to date. The project removed 4,500 linear feet of levee and reconnected the White River with 121 acres of off-channel aquatic habitat. The new 6,000 foot setback levee provides significant flood-risk reduction to more than 200 residences.

Demolition was completed of the former mobile home park at the Riverbend Levee Setback and Floodplain Restoration Project site on the Cedar River in preparation for 2019 construction. The Rivers Strike Team completed six repairs of river facilities.

Capital investment strategies to reduce flood risks were completed for the Cedar, South Fork Snoqualmie, and Tolt rivers. The King County Flood Warning Center opened six times in 2017, providing flood phase information and emergency sandbag distribution to residents and agencies.

Major stormwater capital improvement projects were constructed to repair pipes and install fish passage features in the Fairwood community near Renton. Stormwater projects were also completed at Wilderness Rim, Evans Creek, Mud Creek and Horse-shoe Lake, among others. More than 14,500 linear feet of agricultural waterways and drainage systems were dredged, exceeding the annual 2-mile goal.

To encourage salmon and trout rearing and reduce mortality rates, Ecological Restoration and Environmental Services completed two habitat improvement projects along the Green River's Porter Reach and the Bear Creek Doyle property near Redmond.

A fish monitoring program was started to identify the cumulative effect of King County's investment in habitat restoration on 1,000 miles of fish-bearing streams. A new beaver management program was launched to maximize the ecological benefits beavers provide while protecting private property and infrastructure.

The Snoqualmie Fish, Farm, Flood Report was completed. An agreement years in the making, it is the first phase of a long-term effort with Snoqualmie Valley farmers, residents, and fish and wildlife advocates to reduce flood risks, strengthen salmon populations, and support a prosperous farming community. The Division began implementing the report's top recommendations.

The Noxious Weeds Program worked with more than 4,400 property owners to control 96 percent of Class A and B noxious weeds to protect public health, livestock, crop yields, habitat, and land values. Work included knotweed control along



Executive Constantine joins celebration of the Snoqualmie Fish, Farm, Flood agreement.

93 miles of rivers in partnership with non-profit organizations and tribes.

The division acquired conservation easements or fee-title for 65 properties, covering 300 acres of farmland and 1,107 acres of open space. Funds generated through King County's In-lieu Fees Mitigation Reserve, Transfer of Development Rights, Conservation Futures and Farmland Preservation programs supported these acquisitions. Lands help reduce flood risks, recover salmon, support agriculture, and more.



Environmental monitoring on a small stream.

Despite a particularly successful year, these land conservation efforts fall short of the goal set by a Land Conservation Advisory Group that DNRP convened to develop a Land Conservation Work Plan. The plan calls for protecting 65,000 acres of remaining high conservation value lands within the next 30 years.

Outlook

In 2018, WLRD will be central to delivering the Executive's Clean Water, Healthy Habitat agenda. The Bear Creek Watershed Plan will be finalized and implemented; the Shoreline Management and Flood Hazard Management plans will be updated; and the next phase of the Snoqualmie Fish, Farm, Flood work will begin. The Tolt Pipeline Protection, Tuel Miti-gation, Southeast 19th Way, and Sammamish River Bank Repair flood risk reduction projects will be constructed.

DNRP Financials

Department of Natural Resources and Parks 2017/18 Biennial Budget¹

King County Executive	Operating (\$Millions)	Capital (\$Millions)	FTE's
DNRP Director ²	16.3	N/A	32.0
Wastewater Treatment	837.8	627.3	623.7
Water and Land Resources	139.0	261.3	361.9
Solid Waste	278.3	70.8	406.5
Parks and Recreation ³	97.9	99.8	224.1
Totals	1369.37	1059.18	1648.2

DNRP Rate Summary	2007 Actual	2008 Actual	2009 Actual	2010 Actual
Solid Waste Enterprise				
Rate per ton at SWD transfer stations	82.50	95.00	95.00	95.00
Change from previous year	0.0%	15.2%	0.0%	0.0%
Regional Direct Fee (\$/ton)	69.50	80.00	80.00	80.00
Change from previous year	0.0%	15.1%	0.0%	0.0%
Wastewater Treatment Enterprise				
Monthly rate per household (\$/RCE)	27.95	27.95	31.90	31.90
Change from previous year	9.2%	0.0%	14.1%	0.0%
Surface Water Management Program				
Monthly rate per household ¹	9.25	9.25	9.25	9.25
Change from previous year	8.8%	0.0%	0.0%	0.0%
Inflation Rate (Change from previous year)²				
Seattle Consumer Price Index (CPI)	3.9%	4.2%	0.6%	0.3%

2017/18 Biennial Budget Notes:

¹ King County appropriates budgets on a biennial cycle, so the figures represent two years of expenditure authority, including supplemental appropriations.

² Includes budget for Historic Preservation Program (4.0 FTE's) and Community Services Area Program (4 FTE's).

³ Includes operating and YSFG expenditures.

2011 Actual	2012 Actual	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
95.00	109.00	120.17	120.17	120.17	120.17	134.59	134.59
0.0%	14.7%	10.2%	0.0%	0.0%	0.0%	12.0%	0.0%
80.00	93.50	93.50	93.50	93.50	93.50	114.00	114.00
0.0%	16.9%	0.0%	0.0%	0.0%	0.0%	21.9%	0.0%
36.10	36.10	39.79	39.79	42.03	42.03	44.22	44.22
13.2%	0.0%	10.2%	0.0%	5.6%	0.0%	5.2%	0.0%
11.08	11.08	12.58	14.29	14.29	14.29	20.04	20.04
19.8%	0.0%	13.5%	13.6%	0.0%	0.0%	40.2%	0.0%
2.7%	2.5%	1.2%	1.8%	1.4%	2.4%	3.0% ³	3.6%

Rate Summary Notes:

¹ Billed annually with property taxes

² Source: U.S. Bureau of Labor Statistics (CPI-U for Seattle MSA)

³ For 2017-2018, forecasted change are based on adopted OEFA March 2018 June-June Average Seattle CPI-W forecast.

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
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King County

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